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Indian Standard

TRANSMISSION DEVICES — V-BELTS — ENDLESS NARROW V-BELTS FOR INDUSTRIAL USE — SPECIFICATION

UDC 621·85·052·42

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

December 1995

Price Group 7

Pulleys and Belts Sectional Committee, LM 09

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Pulleys and Belts Sectional Committee had been approved by the Light Mechanical Engineering Division Council.

Narrow V-belt, also known as wedge belts, have higher transmitting capacity than classical V-belt (for the same width) which are covered in IS 2494 (Part 1) : 1994 'V-belts — Endless V-belts for industrial purposes — Specification : Part 1 General purposes'.

In preparation of this standard considerable assistance has been derived from the following:

ISO 4184-1992	Belt drives — Classical and narrow V-belts — Lengths in datum system. International Orgnization for Standardization (ISO).
BS 3790-1981	Endless wedge belt drives and endless V-belt drives — British Standards Institution (BSI)

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TRANSMISSION DEVICES — V-BELTS — ENDLESS NARROW V-BELTS FOR INDUSTRIAL USE — SPECIFICATION

1 SCOPE

1.1 This standard covers the dimensions and other requirements of endless narrow V-belts used for power transmission in general industrial applications.

1.2 This standard also covers recommendations for transmission capacities and selection procedure for the belts.

1.3 The narrow V-belts conforming to this specification are recommended for operating at ambient temperatures between −18°C and 60°C.

2 REFERENCE

IS 7923 : 1985 'Glossary of terms and definitions relating to drives using V-belts and grooved pulleys (*first revision*)' is a neccessary adjunct to this standard.

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 7923 : 1985 along with the following shall apply.

3.1 Narrow V-Belt

A belt in which the outline formed by the base, sides and top of the belt approximates to a trapezium (*see* Fig. in Table 1). These belts are characterized by a relative height of approximately 0·95 W_p (*see* Table 1).

NOTE — 'Narrow V-belts' hereinafter will be referred as 'V-belts' throughout this standard.

3.2 Angle of V-Belt (*A*)

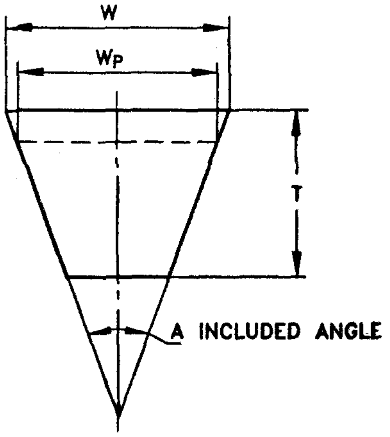
The included angle obtained by extending the sides of the belt (*see* Fig. in Table 1).

3.3 Nominal Height of V-Belt (*T*)

The height of the trapezium outlined on a cross-section of the belt (*see* Fig. in Table 1).

Table 1 Belt Cross-Section Dimensions

(*Clauses* 3.1, 3.2, 3.3, 3.4 *and* 5)



Cross-Section Symbol	Pitch Width W_p	Nominal Top Width *W*	Nominal Height *T*	Nominal Included Angle *A*
	mm	mm	mm	Degree
SPZ	8·5	9·7	8·0	40
SPA	11·0	12·7	10·0	40
SPB	14·0	16·3	13·0	40
SPC	19·0	22·0	18·0	40

3.4 Nominal Top Width of V-Belt (W)

The larger width of the trapezium outlined on a cross-section (*see* Fig. in Table 1).

3.5 Pitch Width of V-Belt (W_p)

The basic dimension of standardization for the belt and for the corresponding pulley groove, considered as a whole.

3.6 Pitch Length of V-Belt (L_p)

The circumferential length of the belt at the pitch width, determined by the method specified in 7.2.

3.7 Pulley Pitch Diameter (d_p)

The diameter of the pulley measured at the groove pitch width.

4 MATERIAL AND WORKMANSHIP

4.1 V-belts shall consist of a suitable combination of elastomeric compound(s) with polyester cord or polyester fabric reinforcement and outside fabric of cotton or synthetic or synthetic blended fabric, coated with polychloroprene or any other suitable compound, the whole being moulded together in a uniform manner and shape in accordance with the best manufacturing practice. The V-belts shall be free from manufacturing defects.

4.2 The reinforcing polyester cord/fabric of the V-belts shall be tested by using suitable qualitative tests. Frequency of such test shall be as agreed between the purchaser and the manufacturer.

4.3 The outside jacket of the V-belt shall be checked for the presence of polychloroprene rubber by using suitable qualitative tests followed where necessary by infra red spectrophotometry. Frequency of such tests shall be as agreed between the purchaser and the manufacturer.

5 CROSS-SECTION DIMENSIONS

The nominal cross-section dimensions and the nominal included angle of belts shall be as given in Table 1. The dimensions of belts made by individual manufacturers may vary slightly from the nominal values given in Table 1, but the belts shall fit pulley grooves within limits given in Table 2A when mounted on two measuring pulleys made in accordance with Table 2B.

6 DESIGNATION

The V-belts conforming to this standard shall be designated by the number of this standard, cross-section symbol and nominal pitch length.

Example:

> A V-belt of cross-section 'SPZ' and of nominal pitch length 630 mm shall be designated as
>
> Narrow V-belt IS 14261 SPZ 630

Table 2A Tolerance and Tension Requirements When Measuring New V-Belts on Pulleys as Specified in Table 2B

(*Clauses* 5 *and* 7.2)

Cross-Section Symbol	Total Tension (F) on Belt N	Position of Top Surface of Belt with Respect to Top of Pulley Groove mm
SPZ	360	+ 1·1 − 0·4
SPA	560	+ 1·3 − 0·6
SPB	900	+ 1·4 − 0·7
SPC	1 500	+ 1·5 − 1·0

7 LENGTH MEASUREMENT AND TOLERANCES

7.1 The nominal pitch length shall be within the limits of variations set out in Table 3.

NOTE — Belts with lengths other than those given in Table 3 may be supplied if agreed to between the purchaser and the supplier. For such belts the pitch length shall be declared by the manufacturer but, pitch length variations shall be those as given in Table 3 for the next lower standard belt length. It is, however, recommended that belts with lengths other than those given in Table 3 may be used for replacement purposes only and standard belts with lengths given in Table 3 should invariably be used for new installations and wherever possible for existing installations as well.

7.2 Determination of Pitch Length

The pitch lengths of V-belts shall be determined when the belt is mounted on the groove measuring fixture having groove dimensions as given in Table 2B with total tension applied and with the belt positioned in the groove in accordance with Table 2A. The total tension shown shall be equally divided between two strands of the belt and the pulleys shall be rotated at least two turns to seat the belt properly. The pitch length shall be calculated by adding the pitch circumference of one of the two equal pulleys to twice the measured centre distance(E).

7.3 Matched Belts

In order to avoid uneven distribution of load, belts running on a multi-belt drive shall be matched belts and their lengths shall be within the tolerances given for matched sets in Table 3.

NOTES

1 Age and storage conditions may alter a belt length (*see* Annex C).

2 It is recommended that belts from different manufacturers should not be mixed on the same drive.

7.3.1 The following system of coding is recommended:

The belts shall be stamped with length code No. 50, if the measured pitch length is equal to the nominal pitch length. A deviation of 2·0 mm in length from the nominal pitch length is to be represented by one unit and the length code number will increase or decrease, as the length is more or less.

Example:

A belt designation:

Narrow V-belt IS 14261 SPZ 630

having an actual pitch length of 620 mm shall be coded 50. If the actual pitch length is 628 mm, it shall be coded 49. If the actual pitch length is 634 mm, it shall be coded 52.

8 TRANSMITTING CAPACITIES

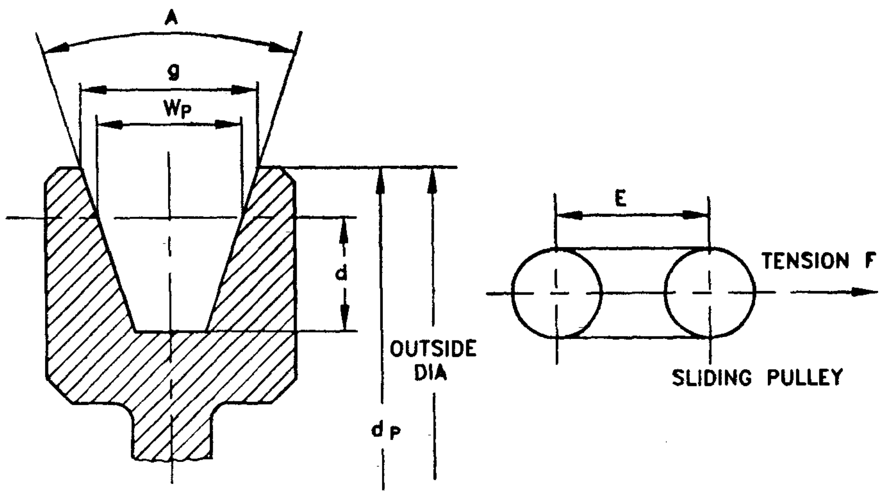
For information of the users, recommendations for power application of V-belts have been given in Annex A. The transmitting capacities of the belts are also given in Annex A for the guidance of designers and for arriving at number of belts to be used in a particular drive.

9 SAMPLING

Unless otherwise agreed to between the purchaser and the manufacturer, the sampling plan

Table 2B Dimensions of Pulleys for Measuring New V-Belts

(*Clauses* 5 *and* 7.2)



Groove Cross-Section Symbol	Outside Diameter Tol = ±0·05	Pitch Diameter Tol = ±0·05 d_p	Nominal Pulley Circumference at Pitch Diameter Tol = ±0·05	Pitch Width W_p	Top Width of Groove g	Groove Angle A	Minimum Groove Depth d
	mm	mm	mm	mm	mm		mm
SPZ	100	95·49	300	8·5	9·91 −0·00 +0·03	36° ± 10′	11·0
SPA	149	143·24	450	11·0	12·96 −0·00 +0·03	36° ± 10′	14·0
SPB	198	190·99	600	14·0	16·45 −0·00 +0·03	36° ± 10′	17·0
SPC	328	318·31	1 000	19·0	22·35 −0·00 +0·03	36° ± 10′	24·0

and criterion for conformity given in Annex B shall be followed.

10 MARKING

The V-belts conforming to this standard shall be marked legibly and durably on the top surface with the symbol indicating the belt cross-section, the belt pitch length, grading number (length code) and the indication of source of manufacture. If required by the purchaser, the month and year of manufacture of the belts may also be marked.

10.1 BIS Certification Marking

The product may also be marked with the Standard Mark.

10.1.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to the manufacturers or the producers may be obtained from the Bureau of Indian Standards.

11 PACKING

The belts shall be suitably packed as mutually agreed to between the purchaser and the supplier.

Table 3 Nominal Pitch Lengths and Permissible Length Variations

(*Clauses* 7.1 *and* 7.3)

All dimensions in millimetres.

Pitch Length	**Pitch Length Variation**	
L_p	Pitch Length Limits	Maximum Variation on Length with a Matched Set
$L_p < 250$	—	2
$250 < L_p \leqslant 315$	—	2
$315 < L_p \leqslant 400$	—	2
$400 < L_p \leqslant 500$	—	2
$500 < L_p \leqslant 630$	± 6	2
$630 < L_p \leqslant 800$	± 8	2
$800 < L_p \leqslant 1\,000$	± 10	2
$1\,000 < L_p \leqslant 1\,250$	± 13	2
$1\,250 < L_p \leqslant 1\,600$	± 16	2
$1\,600 < L_p \leqslant 2\,000$	± 20	2
$2\,000 < L_p \leqslant 2\,500$	± 25	4
$2\,500 < L_p \leqslant 3\,150$	± 32	4
$3\,150 < L_p \leqslant 4\,000$	± 40	6
$4\,000 < L_p \leqslant 5\,000$	± 50	6
$5\,000 < L_p \leqslant 6\,300$	± 63	10
$6\,300 < L_p \leqslant 8\,000$	± 80	10
$8\,000 < L_p \leqslant 10\,000$	± 100	16
$10\,000 < L_p \leqslant 12\,500$	± 125	16

ANNEX A

(*Clause* 8)

RECOMMENDATIONS FOR POWER APPLICATIONS

A-1 POWER TRANSMITTED

A-1.1 The power which a V-belt is capable of transmitting without being over stressed varies with the type of service, the operational hours per day, the length of the belt and the arc of contact on the smaller pulley.

The power ratings for V-belts are given in Tables 4 to 7. The correction factor given in Tables 8, 9 and 10 should be applied to the power ratings to find out the power which can be transmitted by a V-belt.

A-1.1.1 The number of belts required for a particular drive may be calculated from the following formula:

$$\text{Number of belts} = \frac{P \times F_a}{P_r \times F_c \times F_d}$$

where

P = Drive power in kW,

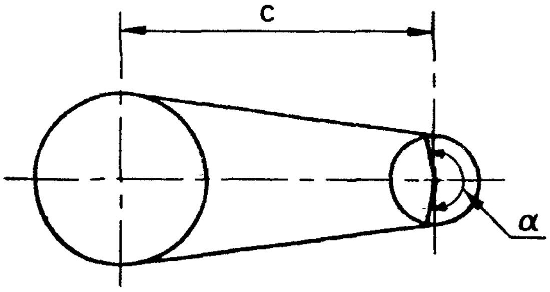
F_a = Correction factor according to service (from Table 8),

P_r = Ratings of the V-belt (from Tables 4 to 7),

F_c = Correction factor for belt pitch length (from Table 9), and

F_d = Correction factor for arc of contact (from Table 10).

A-1.1.2 The arc of contact (*see* Fig. given below) on the smaller pulley should be based on the effective arc as determined by the following formula:



$$\alpha = 2 \cos^{-1} \frac{D - d}{2C}$$

where

α = Arc of contact angle,

D = Pitch diameter of larger pulley,

d = Pitch diameter of smaller pulley, and

C = Centre distance of the drive.

A-2 PITCH LENGTH

The pitch lengths of belts corresponding to given pulley pitch diameters and centre distances may be obtained by the following formula:

$$L = 2C + 1{\cdot}57 (D + d) + \frac{(D - d)^2}{4C}$$

where

L = Pitch length of the belt,

C = Centre distance of the drive,

D = Pitch diameter of larger pulley, and

d = Pitch diameter of smaller pulley.

A-3 CENTRE DISTANCE

The centre distances may be calculated from the following formula:

$$C = A + \sqrt{(A^2 - B)}$$

where

$A = \frac{L}{4} - 0{\cdot}3925 (D + d),$

$B = \frac{(D - d)^2}{8},$

C = Centre distance of drive,

L = Pitch length of the belt,

D = Pitch diameter of larger pulley, and

d = Pitch diameter of smaller pulley.

A-4 SELECTION OF SECTION

Selection of the most favourable V-belt section can be facilitated by the use of Fig. 1. In borderline cases, alternative design calculations may be necessary to determine the best solution of a drive problem.

A-5 TRANSMITTING CAPACITIES

The transmitting capacities, that is, ratings of single V-belts at 180° arc of contact, shall not be less than those given in Tables 4 to 7.

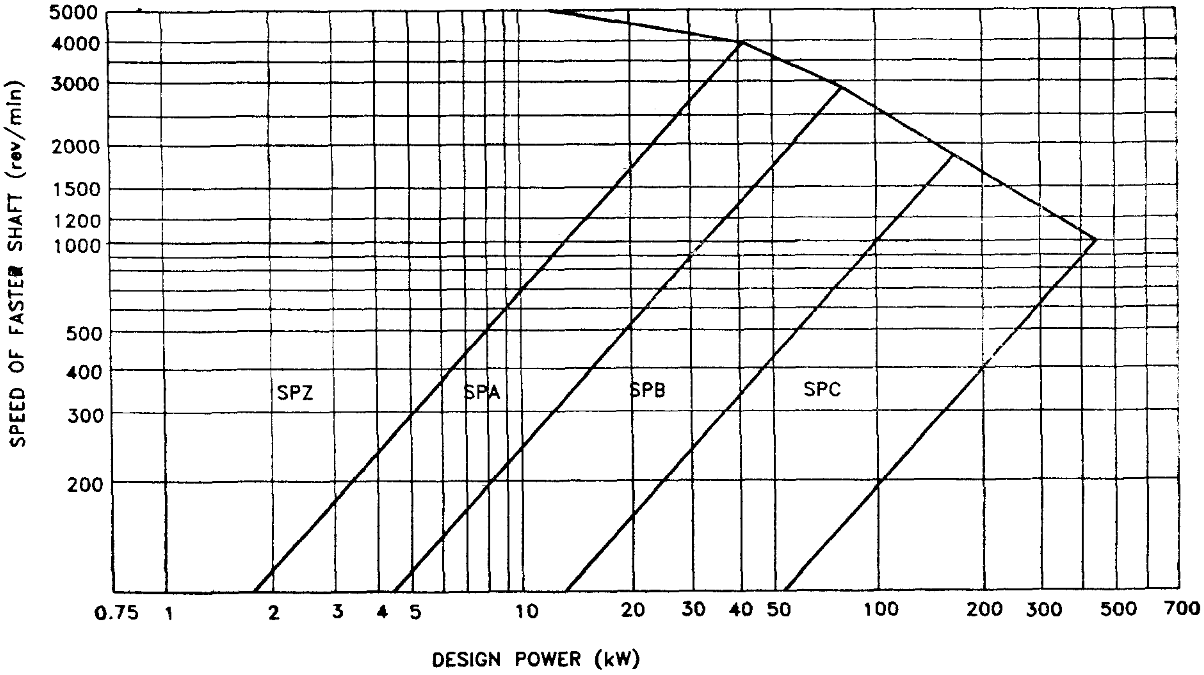


FIG. 1 SELECTION OF NARROW V-BELT CROSS-SECTION

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Table 4 Power Rating in kilowatts (P_r) for SPZ Section Narrow V-Belts with 180° Arc of Contact on Small Pulley

(*Clauses* A-1.1 *and* A-5)

Speed of Faster Pulley	Power Rating for Smaller Pulley Pitch Diameter of											Additional Power Increment per Belt for Speed Ratio of									
	67·0 mm	71·0 mm	75·0 mm	80·0 mm	85·0 mm	90·0 mm	95·0 mm	100·0 mm	112·0 mm	125·0 mm	140·0 mm	1·00 to 1·01	1·02 to 1·05	1·06 to 1·11	1·12 to 1.18	1·19 to 1·26	1·27 to 1·38	1·39 to 1·57	1·58 to 1·94	1·95 to 3·38	3·39 and Over
r/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
720	0·61	0·70	0·79	0·90	1·01	1·12	1·23	1·34	1·60	1·83	2·20	0·00	0·01	0·03	0·05	0·06	0·08	0·09	0·10	0·11	0·12
960	0·77	0·88	1·00	1·15	1·29	1·44	1·58	1·72	2·06	2·42	2·84	0·00	0·01	0·04	0·06	0·08	0·10	0·12	0·13	0·15	0·15
1 440	1·05	1·22	1·39	1·60	1·81	2·01	2·22	2·42	2·91	3·43	4·02	0·00	0·02	0·05	0·09	0·13	0·15	0·18	0·20	0·22	0·23
2 880	1·73	2·04	2·35	2·73	3·11	3·49	3·86	4·22	5·08	5·97	6·97	0·00	0·04	0·11	0·18	0·25	0·30	0·36	0·40	0·44	0·45
100	0·12	0·13	0·15	0·16	0·18	0·20	0·22	0·24	0·28	0·32	0·38	0·00	0·00	0·00	0·01	0·01	0·01	0·01	0·01	0·02	0·02
200	0·21	0·24	0·27	0·30	0·34	0·37	0·40	0·44	0·52	0·60	0·70	0·00	0·00	0·01	0·01	0·02	0·02	0·02	0·03	0·03	0·03
300	0·30	0·34	0·38	0·43	0·48	0·53	0·58	0·63	0·74	0·87	1·01	0·00	0·00	0·01	0·02	0·03	0·03	0·04	0·04	0·05	0·05
400	0·38	0·43	0·48	0·55	0·61	0·68	0·74	0·81	0·96	1·12	1·31	0·00	0·01	0·01	0·03	0·03	0·04	0·05	0·06	0·06	0·06
500	0·45	0·52	0·58	0·66	0·74	0·82	0·90	0·98	1·17	1·37	1·60	0·00	0·01	0·02	0·03	0·04	0·05	0·06	0·07	0·08	0·08
600	0·53	0·60	0·68	0·77	0·87	0·96	1·05	1·15	1·37	1·61	1·88	0·00	0·01	0·02	0·04	0·05	0·06	0·07	0·08	0·09	0·10
700	0·60	0·68	0·77	0·88	0·99	1·10	1·20	1·31	1·57	1·84	2·15	0·00	0·01	0·03	0·04	0·06	0·07	0·09	0·10	0·11	0·11
800	0·66	0·76	0·86	0·99	1·11	1·23	1·35	1·47	1·76	2·07	2·42	0·00	0·01	0·03	0·05	0·07	0·08	0·10	0·11	0·12	0·13
900	0·73	0·84	0·95	1·09	1·22	1·36	1·49	1·63	1·95	2·29	2·68	0·00	0·01	0·03	0·06	0·08	0·10	0·11	0·13	0·14	0·14
1 000	0·79	0·91	1·04	1·19	1·34	1·49	1·63	1·78	2·13	2·51	2·94	0·00	0·01	0·04	0·06	0·09	0·11	0·12	0·14	0·15	0·16
1 100	0·85	0·99	1·12	1·28	1·45	1·61	1·77	1·93	2·32	2·72	3·19	0·00	0·01	0·04	0·07	0·10	0·12	0·14	0·15	0·17	0·18
1 200	0·91	1·06	1·20	1·38	1·56	1·73	1·91	2·08	2·49	2·94	3·44	0·00	0·02	0·04	0·08	0·10	0·13	0·15	0·17	0·18	0·19
1 300	0·97	1·13	1·28	1·47	1·66	1·85	2·04	2·23	2·67	3·14	3·68	0·00	0·02	0·05	0·08	0·11	0·14	0·16	0·18	0·20	0·21
1 400	1·03	1·19	1·36	1·56	1·77	1·97	2·17	2·37	2·84	3·35	3·92	0·00	0·02	0·05	0·09	0·12	0·15	0·17	0·20	0·21	0·23
1 500	1·08	1·26	1·43	1·65	1·87	2·08	2·30	2·51	3·01	3·55	4·16	0·00	0·02	0·06	0·10	0·13	0·16	0·19	0·21	0·23	0·24
1 600	1·14	1·32	1·51	1·74	1·97	2·20	2·42	2·65	3·18	3·75	4·39	0·00	0·02	0·06	0·10	0·14	0·17	0·20	0·22	0·24	0·25
1 700	1·19	1·39	1·58	1·83	2·07	2·31	2·55	2·78	3·34	3·94	4·62	0·00	0·02	006	0·11	0·15	0·18	0·21	0·24	0·26	0·27
1 800	1·24	1·45	1·66	1·91	2·17	2·42	2·67	2·92	3·50	4·13	4·84	0·00	0·02	0·07	0·12	0·16	0·19	0·22	0·25	0·27	0·29
1 900	1·29	1·51	1·73	1·99	2·26	2·52	2·79	3·05	3·66	4·32	5·06	0·00	0·03	0·07	0·12	0·17	0·20	0·24	0·26	0·29	0·31
2 000	1·34	1·57	1·80	2·08	2·35	2·63	2·90	3·18	3·82	4·50	5·27	0·00	0·03	0·07	0·13	0·17	0·21	0·25	0·28	0·30	0·32
2 100	1·39	1·63	1·86	2·16	2·45	2·73	3·02	3·30	3·97	4·68	5·48	0·00	0·03	0·08	0·13	0·18	0·22	0·26	0·29	0·32	0·34
2 200	1·44	1·68	1·93	2·24	2·54	2·84	3·13	3·43	4·12	4·86	5·69	0·00	0·03	0·08	0·14	0·19	0·23	0·27	0·31	0·33	0·35
2 300	1·48	1·74	2·00	2·31	2·63	2·94	3·25	3·55	4·27	5·03	5·89	0·00	0·03	0·08	0·15	0·20	0·24	0·29	0·32	0·35	0·37
2 400	1·53	1·80	2·06	2·39	2·71	3·04	3·36	3·67	4·42	5·20	6·09	0·00	0·03	0·09	0·15	0·21	0·25	0·30	0·33	0·36	0·39
2 500	1·57	1·85	2·12	2·46	2·80	3·13	3·46	3·79	4·56	5·37	6·28	0·00	0·03	0·09	0·16	0·22	0·26	0·31	0·35	0·38	0·40
2 600	1·62	1·90	2·19	2·54	2·88	3·23	3·57	3·91	4·70	5·54	6·47	0·00	0·04	0·10	0·17	0·23	0·28	0·32	0·36	0·39	0·42
2 700	1·66	1·95	2·25	2·61	2·97	3·32	3·67	4·02	4·84	5·69	6·66	0·00	0·04	0·10	0·17	0·24	0·29	0·33	0·38	0·41	0·43
2 800	1·76	2·00	2·31	2·68	3·05	3·41	3·78	4·13	4·97	5·85	6·83	0·00	0·04	0·10	0·18	0·24	0·30	0·35	0·39	0·43	0·45
2 900	1·74	2·05	2·36	2·75	3·13	3·50	3·88	4·24	5·10	6·00	7·00	0·00	0·04	0·11	0·19	0·25	0·31	0·36	0·40	0·44	0·47
3 000	1·78	2·10	2·42	2·82	3·21	3·59	3·97	4·35	5·23	6·15	7·17	0·00	0·04	0·11	0·19	0·26	0·32	0·37	0·42	0·46	0·48
3 100	1·82	2·15	2·48	2·88	3·28	3·68	4·07	4·45	5·36	6·30	7·33	0·00	0·04	0·11	0·20	0·27	0·33	0·38	0·43	0·47	0·50
3 200	1·85	2·19	2·53	2·95	3·36	3·76	4·16	4·56	5·48	6·44	7·49	0·00	0·04	0·12	0·21	0·28	0·34	0·40	0·45	0·49	0·51
3 300	1·89	2·24	2·58	3·01	3·43	3·85	4·26	4·66	5·60	6·58	7·55	0·00	0·04	0·12	0·21	0·29	0·35	0·41	0·46	0·50	0·53
3 400	1·92	2·28	2·64	3·07	3·50	3·93	4·35	4·76	5·72	6·71	7·80	0·00	0·05	0·13	0·22	0·30	0·36	0·42	0·47	0·52	0·55
3 500	1·96	2·32	2·69	3·13	3·57	4·01	4·43	4·85	5·83	6·84	7·94	0·00	0·05	0·13	0·22	0·31	0·37	0·43	0·49	0·53	0·56
3 600	1·99	2·37	2·74	3·19	3·64	4·08	4·52	4·95	5·94	6·97	8·08	0·00	0·05	0·13	0·23	0·31	0·38	0·45	0·50	0·55	0·58
3 700	2·02	2·41	2·79	3·25	3·71	4·16	4·60	5·04	6·05	7·09	8·21	0·00	0·05	0·14	0·24	0·32	0·39	0·46	0·52	0·56	0·60
3 800	2·06	2·45	2·83	3·31	3·78	4·23	4·69	5·13	6·15	7·20	8·33	0·00	0·05	0·14	0·24	0·33	0·40	0·47	0·53	0·58	0·61
3 900	2·09	2·49	2·88	3·36	3·84	4·31	4·77	5·21	6·25	7·32	8·45	0·00	0·05	0·14	0·25	0·34	0·41	0·48	0·54	0·59	0·63
4 000	2·12	2·52	2·92	3·42	3·90	4·38	4·84	5·30	6·35	7·43	8·57	0·00	0·05	0·15	0·26	0·35	0·42	0·50	0·56	0·61	0·64
4 100	2·14	2·56	2·97	3·47	3·96	4·45	4·92	5·38	6·45	7·53		0·00	0·06	0·15	0·26	0·36	0·43	0·51	0·57	0·62	0·66
4 200	2·17	2·59	3·01	3·52	4·02	4·51	4·99	5·46	6·54	7·63		0·00	0·06	0·15	0·27	0·37	0·44	0·52	0·59	0·64	0·68
4 300	2·20	2·63	3·05	3·57	4·08	4·58	5·06	5·54	6·63	7·72		0·00	0·06	0·16	0·28	0·38	0·45	0·53	0·60	0·65	0·69
4 400	2·22	2·66	3·09	3·62	4·13	4·64	5·13	5·61	6·71	7·82		0·00	0·06	0·16	0·28	0·38	0·47	0·55	0·61	0·67	0·71
4 500	2·25	2·69	3·13	3·66	4·19	4·70	5·20	5·68	6·79	7·90		0·00	0·06	0·17	0·29	0·39	0·48	0·56	0·63	0·68	0·72
4 600	2·27	2·72	3·17	3·17	4·24	4·76	5·26	5·75	6·87			0·00	0·06	0·17	0·30	0·40	0·49	0·57	0·64	0·70	0·74
4 700	2·29	2·75	3·20	3·75	4·29	4·81	5·32	5·84	6·94			0·00	0·06	0·17	0·30	0·41	0·50	0·58	0·65	0·71	0·76
4 800	2·32	2·78	3·24	3·79	4·34	4·87	5·38	5·88	7·01			0·00	0·06	0·18	0·31	0·42	0·51	0·59	0·67	0·73	0·77
4 900	2·34	2·81	3·27	3·83	4·38	4·92	5·44	5·94	7·08			0·00	0·07	0·18	0·31	0·43	0·52	0·61	0·68	0·74	0·79
5 000	2·36	2·83	3·30	3·87	4·43	4·97	5·49	6·00	7·14			0·00	0·07	0·18	0·32	0·44	0·53	0·62	0·70	0·76	0·80

Table 5 Power Rating in kilowatts (P_r) for SPA Section Narrow V-Belts with 180° Arc of Contact on Small Pulley

(*Clauses* A-1.1 *and* A-5)

Speed of Faster Shaft	Power Rating for Smaller Pulley Pitch Diameter of											Additional Power Increment per Belt for Speed Ratio of									
	100·5 mm	106·0 mm	112·0 mm	118·0 mm	125·0 mm	132·0 mm	140·0 mm	150·0 mm	160·0 mm	180·0 mm	200·0 mm	1·00 to 1·01	1·02 to 1·05	1·06 to 1·11	1·12 to 1·18	1·19 to 1·26	1·27 to 1·38	1·39 to 1·57	1·58 to 1·94	1·95 to 3·38	3·39 and Over
r/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
720	1·53	1·76	1·99	2·22	2·48	2·75	3·05	3·42	3·79	4·57	5·24	0·00	0·02	0·07	0·12	0·16	0·20	0·23	0·26	0·28	0·30
960	1·92	2·22	2·51	2·81	3·15	3·50	3·88	4·36	4·84	5·79	6·72	0·00	0·03	0·09	0·16	0·21	0·26	0·30	0·34	0·37	0·40
1 440	2·60	3·04	3·46	3·89	4·38	4·87	5·42	6·10	6·78	8·10	9·40	0·00	0·05	0·14	0·24	0·32	0·39	0·46	0·51	0·56	0·59
2 880	4·12	4·88	5·64	6·37	7·22	8·05	8·97	10·10	11·19	13·24	—	0·00	0·10	0·27	0·47	0·64	0·78	0·91	1·03	1·12	1·19
100	0·30	0·33	0·37	0·41	0·45	0·49	0·54	0·60	0·66	0·78	0·90	0·00	0·00	0·01	0·02	0·02	0·03	0·03	0·04	0·04	0·04
200	0·53	0·60	0·68	0·75	0·83	0·91	1·00	1·12	1·23	1·46	1·68	0·00	0·01	0·02	0·03	0·04	0·05	0·06	0·07	0·08	0·08
300	0·75	0·85	0·95	1·06	1·18	1·29	1·43	1·60	1·76	2·08	2·42	0·00	0·01	0·03	0·06	0·07	0·08	0·10	0·11	0·12	0·12
400	0·95	1·08	1·22	1·35	1·51	1·66	1·84	2·05	2·27	2·70	3·13	0·00	0·01	0·04	0·07	0·09	0·11	0·13	0·14	0·16	0·16
500	1·14	1·31	1·47	1·63	1·82	2·01	2·23	2·49	2·76	3·29	3·81	0·00	0·02	0·05	0·08	0·11	0·14	0·16	0·18	0·19	0·21
600	1·32	1·52	1·71	1·90	2·13	2·35	2·61	2·92	3·24	3·85	4·47	0·00	0·02	0·06	0·10	0·13	0·16	0·19	0·21	0·23	0·25
700	1·49	1·72	1·94	2·17	2·42	2·68	2·97	3·34	3·70	4·41	5·12	0·00	0·02	0·07	0·12	0·16	0·19	0·22	0·25	0·27	0·29
800	1·65	1·92	2·17	2·42	2·71	3·00	3·33	3·74	4·15	4·95	5·74	0·00	0·03	0·08	0·13	0·18	0·22	0·25	0·29	0·31	0·33
900	1·82	2·11	2·39	2·67	2·09	3·31	3·68	4·13	4·58	5·48	6·35	0·00	0·03	0·08	0·15	0·20	0·24	0·29	0·32	0·35	0·37
1 000	1·98	2·29	2·60	2·91	3·26	3·62	4·02	4·52	5·01	5·98	6·95	0·00	0·03	0·09	0·16	0·22	0·27	0·32	0·36	0·39	0·41
1 100	2·13	2·47	2·80	3·14	3·53	3·91	4·35	4·89	5·43	6·49	7·53	0·00	0·04	0·10	0·18	0·25	0·30	0·35	0·39	0·43	0·45
1 200	2·27	2·64	3·00	3·37	3·78	4·20	4·67	5·26	5·84	6·98	8·10	0·00	0·04	0·11	0·20	0·27	0·33	0·38	0·43	0·47	0·49
1 300	2·42	2·81	3·20	3·59	4·04	4·48	4·99	5·61	6·23	7·45	8·65	0·00	0·04	0·12	0·21	0·29	0·35	0·41	0·46	0·51	0·54
1 400	2·55	2·97	3·39	3·80	4·29	4·76	5·30	5·96	6·62	7·92	9·19	0·00	0·05	0·13	0·23	0·31	0·38	0·44	0·50	0·54	0·58
1 500	2·69	3·13	3·57	4·01	4·52	5·03	5·60	6·30	7·00	8·37	9·71	0·00	0·05	0·14	0·25	0·34	0·41	0·48	0·54	0·58	0·62
1 600	9·81	3·29	3·75	4·22	4·75	5·29	5·89	6·64	7·37	8·81	10·21	0·00	0·06	0·15	0·26	0·36	0·43	0·51	0·57	0·62	0·66
1 700	2·94	3·44	3·93	4·42	4·98	5·54	6·18	6·96	7·73	9·24	10·70	0·00	0·06	0·16	0·28	0·38	0·46	0·54	0·61	0·66	0·70
1 800	3·06	3·58	4·10	4·61	5·20	5·79	6·45	7·27	8·08	9·65	11·10	0·00	0·06	0·17	0·30	0·40	0·49	0·57	0·64	0·70	0·74
1 900	3·18	3·72	4·26	4·80	5·42	6·03	6·73	7·58	8·42	10·05	11·63	0·00	0·07	0·18	0·31	0·43	0·51	0·60	0·68	0·74	0·78
2 000	3·29	3·86	4·42	4·98	5·63	6·27	6·99	7·83	8·75	10·44	12·07	0·00	0·07	0·19	0·33	0·45	0·54	0·61	0·71	0·78	0·82
2 100	3·40	3·99	4·58	5·16	5·83	6·50	7·25	8·17	9·07	10·82	12·49	0·00	0·07	0·20	0·35	0·47	0·57	0·67	0·75	0·82	0·87
2 200	3·50	4·12	4·73	5·34	6·03	6·72	7·49	8·45	9·38	11·18	12·90	0·00	0·08	0·21	0·36	0·49	0·60	0·70	0·79	0·86	0·91
2 300	3·61	4·25	4·88	5·50	6·23	6·94	7·74	8·72	9·68	11·53	13·28	0·00	0·08	0·22	0·38	0·51	0·62	0·73	0·82	090	0·95
2 400	3·70	4·37	5·02	5·67	6·41	7·14	7·97	8·98	9·96	11·86	13·65	0·00	0·08	0·23	0·39	0·54	0·65	0·76	0·86	0·93	0·99
2 500	3·80	4·48	5·16	5·83	6·59	7·35	8·19	9·23	10·24	12·17	13·99	0·00	0·08	0·24	0·41	0·56	0·68	0·79	0·89	0·97	1·03
2 600	3·89	4·59	5·29	5·98	6·77	7·54	8·41	9·47	10·50	12·48	14·32	0·00	0·09	0·24	0·43	0·58	0·70	0·83	0·93	1·01	1·07
2 700	3·98	4·70	5·42	6·12	6·93	7·73	8·62	9·71	10·76	12·76	14·63	0·00	0·09	0·25	0·44	0·60	0·73	0·86	0·96	1·05	1·11
2 800	4·05	4·81	5·54	6·26	7·09	7·91	8·82	9·93	11·00	13·03	14·91	0·00	0·10	0·26	0·46	0·63	0·76	0·89	1·00	1·09	1·15
2 900	4·14	4·90	5·66	6·50	7·25	8·08	9·01	10·14	11·23	13·29		0·00	0·10	0·27	0·48	0·65	0·79	0·92	1·04	1·13	1·20
3 000	4·21	5·00	5·77	6·53	7·40	8·25	9·20	10·34	11·45	13·53		0·00	0·10	0·28	0·49	0·67	0·81	0·95	1·07	1·17	1·24
3 100	4·29	5·09	5·88	6·65	7·54	8·41	9·37	10·54	11·65	13·75		0·00	0·11	0·29	0·51	0·69	0·84	0·98	1·11	1·21	1·28
3 200	4·35	5·17	5·98	6·77	7·68	8·56	9·54	10·72	11·85			0·00	0·11	0·30	0·53	0·72	0·87	1·02	1·14	1·25	1·32
3 300	4·42	5·25	6·08	6·88	7·80	8·70	9·69	10·89	12·03			0·00	0·11	0·31	0·54	0·74	0·89	1·05	1·18	1·28	1·36
3 400	4·48	5·33	6·17	6·99	7·92	8·83	984	11·05	12·19			0·00	0·12	0·32	0·56	0·76	0·92	1·08	1·21	1·32	1·40
3 500	4·53	5·40	6·26	7·09	8·04	8·96	9·98	11·19	12·35			0·00	0·12	0·33	0·58	0·78	0·95	1·11	1·25	1·36	1·44
3 600	4·58	5·47	6·34	7·18	8·15	9·08	10·10	11·33				0·00	0·12	0·34	0·59	0·81	0·98	1·14	1·29	1·40	1·48
3 700	4·63	5·53	6·41	7·27	8·24	9·19	10·22	11·45				0·00	0·13	0·35	0·61	0·83	1·00	1·18	1·32	1·44	1·53
3 800	4·67	5·59	6·48	7·35	8·34	9·29	10·33	11·56				0·00	0·13	0·36	0·62	0·85	1·03	1·21	1·36	1·48	1·57
3 900	4·71	5·64	6·55	7·43	8·42	9·38	10·43					0·00	0·13	0·37	0·64	0·87	1·06	1·24	1·39	1·52	1·61
4 000	4·74	5·69	6·60	7·49	8·50	9·46	10·51					0·00	0·14	0·38	0·66	0·89	1·08	1·27	1·43	1·56	1·65
4 100	4·77	5·73	6·66	7·56	8·57	9·54						0·00	0·14	0·39	0·67	0·92	1·11	1·30	1·46	1·60	1·69
4 200	4·80	5·77	6·70	7·61	8·63	9·60						0·00	0·15	0·40	0·69	0·94	1·14	1·33	1·50	1·63	1·73
4 300	4·82	5·80	6·74	7·66	8·68	9·66						0·00	0·15	0·41	0·71	0·96	1·17	1·37	1·54	1·67	1·77
4 400	4·84	5·82	6·78	7·70	8·73							0·00	0·15	0·41	0·72	0·98	1·19	1·40	1·57	1·71	1·81
4 500	4·85	5·85	6·81	7·73	8·76							0·00	0·16	0·42	0·74	1·01	1·22	1·43	1·61	1·75	1·85
4 600	4·86	5·86	6·83	7·76								0·00	0·16	0·43	0·76	1·03	1·25	1·46	1·64	1·79	1·90
4 700	4·86	5·87	6·84	7·78								0·00	6·16	0·44	0·77	1·05	1·27	1·49	1·68	1·83	1·94
4 800	4·85	5·87	6·85	7·79								0·00	0·17	0·45	0·79	1·07	1·30	1·52	1·71	1·87	1·98
4 900	4·85	5·87	6·85									0·00	0·17	0·46	0·81	1·10	1·33	1·56	1·75	1·91	2·02
5 000	4·84	5·87	6·85									0·00	0·17	0·47	0·82	1·12	1·36	1·59	1·79	1·95	2·06

Table 6 Power Rating in kilowatts (P_r) for SPB Section Narrow V-Belts with 180° Arc of Contact on Small Pulley

(*Clauses* A-1.1 *and* A-5)

Speed of Faster Shaft	Power Rating for Smaller Pulley Pitch Diameter of											Additional Power Increment per Belt for Speed Ratio of									
	160·0 mm	170·0 mm	180·0 mm	190·0 mm	200·0 mm	212·0 mm	224·0 mm	236·0 mm	250·0 mm	280·0 mm	315·0 mm	1·00 to 1·01	1·02 to 1·05	1·06 to 1·11	1·12 to 1·18	1·19 to 1·26	1.27 to 1·38	1·39 to 1·57	1·58 to 1·94	1·95 to 3·38	3·39 and Over
r/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
720	4·54	5·11	5·68	6·25	6·81	7·49	8·15	8·82	9·58	11·21	13·07	0·00	0·05	0·14	0·25	0·33	0·40	0·47	0·53	0·58	0·62
960	5·73	6·47	7·21	7·94	8·66	9·52	10·28	11·23	12·20	14·26	16·61	0·00	0·07	0·19	0·33	0·45	0·54	0·63	0·71	0·78	0·82
1 440	7·85	8·89	9·92	10·95	11·95	13·15	14·32	15·48	16·80	19·55	22·59	0·00	0·10	0·28	0·49	0·67	0·81	0·95	1·07	1·16	1·23
2 880	12·04	13·68	15·25	16·76	—	—	—	—	—	—	—	0·00	0·21	0·56	0·98	1·34	1·62	1·90	2·14	2·33	2·46
100	0·84	0·93	1·02	1·12	1·21	1·32	1·43	1·54	1·66	1·94	2·25	0·00	0·01	0·02	0·03	0·05	0·06	0·07	0·07	0·08	0·09
200	1·53	1·71	1·89	2·06	2·24	2·45	2·66	2·86	3·10	3·62	4·21	0·00	0·01	0·04	0·07	0·09	0·11	0·13	0·15	0·16	0·17
300	2·17	2·43	2·69	2·94	3·20	3·50	3·81	4·11	4·46	5·20	6·06	0·00	0·02	0·06	0·10	0·14	0·17	0·20	0·22	0·24	0·26
400	2·77	3·11	3·45	3·78	4·11	4·51	4·90	5·29	5·75	6·72	7·83	0·00	0·03	0·08	0·14	0·19	0·22	0·26	0·30	0·32	0·34
500	3·35	3·76	4·17	4·58	4·99	5·47	5·96	6·44	6·99	8·18	9·54	0·00	0·04	0·10	0.17	0·23	0·28	0·33	0·37	0·40	0·43
600	3·90	4·39	4·87	5·36	5·83	6·41	6·97	7·54	8·19	9·58	11·18	0·00	0·04	0·12	0·20	0·28	0·34	0·40	0·44	0·48	0·51
700	4·43	4·99	5·55	6·10	6·65	7·31	7·96	8·61	9.36	10·94	12·76	0·00	0·05	0·14	0·24	0·33	0·39	0·46	0·52	0·57	0·60
800	4·95	5·58	6·20	6·83	7·45	8·18	8·92	9·64	10·48	12·26	14·29	0·00	0·06	0·16	0·27	0·37	0·45	0·53	0·59	0·65	0·68
900	5·44	6·14	6·84	7·53	8·21	9·03	9·84	10·64	11·57	13·53	15·75	0·00	0·06	0·18	0·31	0·42	0·51	0·59	0·67	0·73	0·77
1 000	5·92	6·69	7·45	8·21	8·96	9·85	10·73	11·61	12·62	14·75	17·16	0·00	0·07	0·20	0·34	0·46	0·56	0·66	0·74	0·81	0·86
1 100	6·39	7·22	8·05	8·87	9·68	10·64	11·60	12·54	13·63	15·92	18·51	0·00	0·08	0·22	0·38	0·51	0·62	0·72	0·82	0·89	0·94
1 200	6·83	7·73	8.62	9·50	10·38	11·41	12·44	13·45	14·61	17·05	19·79	0·00	0·09	0·23	0·41	0·56	0·67	0·79	0·89	0·97	1·03
1 300	7·27	8·23	9.18	10·12	11·05	12·15	13·24	14·32	15·55	18·13	21·00	0·00	0·09	0·25	0·44	0·60	0·73	0·86	0·96	1·05	1·11
1 400	7·69	8·71	9·72	10·71	11·70	12·87	14·02	15·15	16·45	19·15	22·15	0·00	0·10	0·27	0·48	0·65	0·79	0·92	1·04	1·13	1·20
1 500	8·09	9·17	10·24	11·29	12·33	13·56	14·76	15·95	17·31	20·12	23·22	0·00	0·11	0·29	0·51	0·70	0·84	0·99	1.11	1·21	1·28
1 600	8·48	9·62	10·74	11·84	12·93	14·22	15·48	16·72	18·13	21·04	24·22	0·00	0·11	0·31	0·55	0·74	0·90	1·05	1·19	1·29	1·37
1 700	8·85	10·04	11·22	12·37	13·51	14·85	16·16	17·44	18·90	21·90	25·14	0·00	0·12	0·33	0·58	0·79	0·96	1·12	1·26	1·37	1·45
1 800	9·21	10·45	11·68	12·88	14·06	15·45	16·81	18·13	19·64	22·70	25·98	0·00	0·13	0·35	0·61	0·84	1·01	1·19	1·33	1·45	1·54
1 900	9·56	10·85	12·12	13·36	14·58	16·02	17·42	18·78	20·32	23·44		0·00	0·14	0·37	0·65	0·88	1·07	1·25	1·41	1·53	1·63
2 000	9·88	11·22	12·54	13·82	15·08	16·56	17·99	19·39	20·96	24·11		0·00	0·14	0·39	0·68	0·93	1·12	1·32	1·48	1·62	1·71
2 100	10·19	11·58	12·93	14·26	15·55	17·07	18·53	19·95	21·26			0·00	0·15	0·41	0·72	0·98	1·18	1·38	1·56	1·70	1·80
2 200	10·49	11·92	13·31	14·67	16·00	17·54	19·04	20·47	22·08			0·00	0·16	0·43	0·75	1·02	1·24	1·45	1·63	1·78	1·88
2 300	10·77	12·23	13·66	15·06	16·41	17·98	19·50	20·95				0·00	0·16	0·45	0·78	1·07	1·29	1·52	1·71	1·86	1·97
2 400	11·03	12·53	14·00	15·42	16·79	18·39	19·92	21·38				0·00	0·17	0·47	0·82	1·11	1·35	1·58	1·78	1·94	2·05
2 500	11·27	12·81	14.30	15·75	17·15	18·76	20·30					0·00	0·18	0·49	0·85	1·16	1.41	1·65	1·85	2·02	2·14
2 600	11·50	13·07	14·59	16·06	17·47	19·09						0·00	0·19	0·51	0·89	1·21	1·46	1·71	1·93	2·10	2·22
2 700	11·71	13·31	14·85	16·33	17·76	19·39						0·00	0·19	0·53	0·92	1·25	1·52	1·78	2·00	2·18	2·31
2 800	11·90	13·52	15·08	16·58	18·01							0·00	0·20	0·55	0·96	1·30	1·57	1·85	2·08	2·26	2·40
2 900	12·07	13·71	15·29	16·80								0·00	0·21	0·57	0·99	1·35	1·63	1·91	2·15	2·34	2·48
3 000	12·22	13·89	15·47	16·99								0·00	0·22	0·59	1·02	1·39	1·69	1·98	2·22	2·42	2·57
3 100	12·36	14·03	15·63									0·00	0·22	0·61	1·06	1·44	1·74	2·04	2·30	2·50	2·65
3 200	12·47	14·16										0·00	0·23	0·63	1·09	1·49	1·80	2·11	2·37	2·58	2·74
3 300	12·56	14·26										0·00	0·24	0·65	1·13	1·53	1·86	2·17	2·45	2·67	2·82
3 400	12·62											0·00	0·24	0·66	1.16	1·58	1·91	2·24	2·52	2·75	2·91
3 500	12·68											0·00	0·25	0·68	1·19	1·63	1·97	2·31	2·59	2·83	2·99

Table 7 Power Rating in kilowatts (P_r) for SPC Section Narrow V-Belts with 180° Arc of Contact on Small Pulley

(*Clauses* A-1.1 *and* A-5)

Speed of Faster Shaft	Power Rating for Smaller Pulley Pitch Diameter of											Additional Power Increment per Belt for Speed Ratio of									
	224·0 mm	236·0 mm	250·0 mm	265·0 mm	280·0 mm	315·0 mm	355·0 mm	400·0 mm	450·0 mm	500·0 mm	560·0 mm	1·00 to 1·01	1·02 to 1·05	1·06 to 1·11	1·12 to 1·18	1·19 to 1·26	1·27 to 1·38	1·39 to 1·57	1·58 to 1·94	1·95 to 3·38	3·39 and Over
r/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
720	10·22	11·54	13·06	14·68	16·28	19·97	24·10	28·63	33·51	38·23	43·67	0·00	0·16	0·42	0·74	1·00	1.22	1·43	1·60	1·75	1.85
960	12·69	14·36	16·30	18·35	20·38	25·02	30·16	35·71	41·58	47·12	53·29	0·00	0·21	0·56	0·98	1·34	1·62	1·90	2·14	2·33	2·47
1 440	16·59	18·88	21·50	24·25	26·94	32·96	39·37	—	—	—	—	0·00	0·31	0·85	1·48	2·01	2·43	2·95	3·21	3·50	3·70
100	1·99	2·20	2·45	2·72	2·99	3·60	4·31	5 09	5·95	6·80	7·82	0·00	0·02	0·06	0·10	0·14	0·17	0·20	0·22	0·24	0·26
200	3·59	4·00	4·48	4·99	5·49	6·67	8·00	9·48	11·11	12·72	14·64	0·00	0·04	0·12	0.21	0·28	0·34	0·40	0·45	0·49	0·51
300	5·04	5·64	6·33	7·07	7·81	9·51	11·44	13·58	15·93	18·26	21·01	0·00	0·06	0·18	0·31	0·42	0·51	0·59	0·67	0·73	0·77
400	6·40	7·17	8·07	9·04	9·99	12·20	14·70	17·47	20·25	23·48	27 00	0·00	0·09	0·24	0·41	0·56	0·68	0·79	0·89	0·97	1·03
500	7·67	8·62	9·72	10·90	12 06	14·76	17·80	21·16	24·82	28·42	32·64	0 00	0·11	0·29	0·51	0·70	0·85	0·99	1·11	1·21	1·29
600	8·87	9·99	11·28	12·66	14·04	17·20	20·75	24·67	28·92	33·06	37·89	0·00	0·13	0·35	0·62	0·84	1·01	1·19	1·34	1·46	1·54
700	10·00	11·29	12·27	14·35	15·92	19·52	23·56	27 99	32·77	37·40	42·75	0·00	0·15	0·41	0·72	0·98	1·18	1·39	1·56	1·70	1·80
800	11·08	12·52	14·19	15·95	17·71	21·73	26·22	31·12	36·37	41·42	47·18	0·00	0·17	0·47	0·82	1·12	1·35	1·58	1·78	1·94	2·06
900	12·10	13·69	15·53	17·48	19·41	23·82	28·73	34·05	39·71	45·09	51·15	0·00	0·19	0·53	0·92	1·26	1·52	1·78	2·01	2·19	2·31
1 000	13·06	14·79	16·80	18·92	21·02	25·80	31·08	36·77	42·77	48·39	54·61	0·00	0·22	0·59	1·03	1·40	1·69	1·98	2·23	2·43	2·57
1 100	13·96	15·83	18·00	20·28	22·53	27·65	33·27	39·27	45·52	51·29		0·00	0·24	0·65	1·13	1·54	1·86	2·18	2·45	2·67	2·83
1 200	14·81	16·81	19·12	21·55	23·95	29·38	35·29	41·54	47·96			0·00	0·26	0·71	1·23	1·67	2·03	2·38	2·67	2·91	3·09
1 300	15·59	17·72	20·17	22·74	25·27	30·97	37·12	43·56				0·00	0·28	0·76	1·33	1·81	2·20	2·58	2·90	3·16	3·34
1 400	16·31	18·56	21·14	23·84	26·48	32·42	38·77	45·32				0·00	0·30	0·82	1·44	1·95	2·37	2·77	3·12	3·40	3·60
1 500	16·98	19·33	22·02	24·84	27·59	33·73	40·22					0·00	0·32	0·88	1·54	2·09	2·54	2·97	3·34	3·64	3·86
1 600	17·58	20·03	22·83	25·75	28·59	34·88	41·45					0·00	0·34	0·94	1·64	2·23	2·71	3·17	3·57	3·89	4·11
1 700	18·11	20·65	23·55	26·56	29·47	35·88						0·00	0·37	1·00	1·74	2·37	2·87	3·37	3·79	4·13	4·37
1 800	18·57	21 20	24·18	27·26	30·23	36·71						0·00	0·39	1·06	1·85	2·51	3·04	3·57	4·01	4·37	4·63
1 900	18·97	21·67	24·71	27·85	30·87							0·00	0·41	1·12	1·95	2·65	3·21	3·76	4·23	4·61	4·89
2 000	19·29	22·05	25·15	28·34	31·37							0·00	0·43	1·18	2·05	2·79	3·38	3·96	4·46	4·86	5·14
2 100	19·54	22·35	25·49	28·70								0·00	0·45	1·23	2·15	2·93	3·55	4·16	4·68	5·10	5·40
2 200	19·72	22·56	25·73									0·00	0·47	1.29	2·26	3·07	3·72	4·36	4·90	5·34	5·66
2 300	19·81	22·68										0·00	0·50	1·35	2·36	3·21	3·89	4·56	5·13	5·59	5·91
2 400	19·82	22·70										0·00	0·52	1·41	2·46	3·35	4·06	4·75	5·35	5·83	6·17
2 500	19·75											0·00	0·54	1·47	2·56	3·49	4·23	4·95	5·57	6·07	6·43

Table 8 Correction Factors for Industrial Service, F_a

(*Clause* A-1.1.1)

Severity of Service	Type of Driven Machines	Correction Factor Type of Driving Units					
		AC motors : normal torque, squirrel cage, synchronous and split phase. *DC motors* : shunt wound. Multiple cylinder internal combustion engines over 600 rev/min			*AC motors* : high torque, slip repulsion-induction, single phase series wound and slip ring. *DC motors*: series wound and compound wound. Single cylinder internal combustion engines. Multiple cylinder internal combustion engines under 600 rev/min. Line shafts, clutches, brakes, direct on line starting		
		Operational hours per day			*Operational hours per day*		
		Up to 10 h	Over 10 to 16 h	Over 16h and continuous service	Up to 10 h	Over 10 to 16 h	Over 16 h and continuous service
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Light duty	Agitators for liquids blowers and exhausters, centrifugal pumps and compressors fans up to 7·5 kW and light-duty conveyors	1·0	1·1	1·2	1·1	1·2	1·3
Medium duty	Belt conveyors for sand, grain, etc; dough mixers; fans over 7·5 kW; generators, line shafts, laundary machinery; machine tools; punches, presses and shears; printing machinery, positive displacement rotary pumps; and revolving and vibrating screens	1·2	1·2	1·3	1·2	1·3	1·4
Heavy duty	Brick machinery, bucket elevators, exciters, piston compressors, conveyors (drag-pan-screw), hammer mills, paper mill beaters, piston pumps, positive displacement blowers, pulverizers, saw mill and wood-working machinery, and textile machinery	1·2	1.3	1·4	1·4	1·5	1·6
Extra-heavy duty	Crushers (Gyratory-jaw-roll) mills (ballrod-tube), hoists and rubber calenders-extruder-mills.	1·3	1·4	1·5	1·5	1·6	1·8

NOTES

1 The table gives only a few examples of particularly representative machines.

2 If an idler pulley is used, the following values shall be added to the service factors;

Idler pulley on the slack side:
Inside 0
Outside 0·1
Idler pulley on the tight side:
Inside 0·1
Outside 0·2

3 For speed increasing drives of:

Speed ratio 1·00 to 1·24; multiply correction factor by 1·00;
Speed ratio 1·25 to 1·74; multiply correction factor by 1·05;
Speed ratio 1·75 to 2·49; multiply correction factor by 1·11;
Speed ratio 2·50 to 3·49; multiply correction factor by 1·18; and
Speed ratio 3·50 and over; multiply correction factor by 1·25.

Table 9 Correction Factors for Belt Pitch Length, F_c

(*Clauses* A-1.1 *and* A-1.1.1)

Power Correction Factor	Belt Pitch Length Narrow V-Belts			
	SPZ mm	SPA mm	SPB mm	SPC mm
0·80				
0·81				
0·82	—	800	—	—
0·83	630	—	—	—
0·84	—	900	—	—
0·85	710	—	1 250	—
0·86	—	1 000	—	2 000
0·87	800	—	1 400	—
0.88	—	1 120	—	2 240
0·89	900	—	1 600	—
0·90	—	1 250	—	2 500
0·91	—	—	1 800	2 800
0·92	1 000	1 400	—	—
0·93	—	—	2 090	3 150
0·94	1 120	1 600	—	—
0·95	—	—	2 240	3 550
0·96	1 250	1 800	2 500	—
0·97	—	—	—	4 000
0·98	1 400	2 000	2 800	4 500
1·00	1 600	2 240	3 150	5 000
1·02	1 800	2 500	3 550	5 600
1·04	2 000	2 800	4 090	6 300
1·05	—	—	—	7 100
1·06	—	3 150	4 500	—
1·07	2 240	—	—	8 000
1·08	—	3 550	5 000	—
1·09	2 500	—	5 600	9 000
1·10	—	4 000	—	—
1·11	2 800	—	6 300	10 000
1·12	—	4 500	—	11 200
1·13	3 150	—	7 100	—
1·14	—	—	—	12 500
1·15	3 550	—	7 800	—

Table 10 Correction Factors for Arc of Contact, F_d

(*Clauses* A-1.1 *and* A-1.1.1)

$\frac{D-d}{C}$	Arc of Contact on Smaller Pulley	Correction Factors, i.e., Proportion of 180° Rating
	degree	
0·00	180	1·00
0·05	177	0·99
0·10	174	0·99
0·15	171	0·98
0·20	169	0·97
0·25	166	0·97
0·30	163	0·96
0·35	160	0·95
0·40	157	0·94
0·45	154	0·93
0·50	151	0·93
0·55	148	0·92
0·60	145	0·91
0·65	142	0·90
0·70	139	0·89
0·75	136	0·88
0·80	133	0·87
0·85	130	0·86
0·90	127	0·85
0·95	123	0·83
1·00	120	0·82

ANNEX B

(*Clause* 9)

SAMPLING OF V-BELTS AND CRITERION FOR CONFORMITY

B-1 SCALE OF SAMPLING

B-1.1 Lot

In any consignment, all the V-belts of the same designation (that is, the same cross-section and nominal pitch length) manufactured from a single batch of raw materials or from component parts obtained from a single source under essentially similar conditions of manufacture shall be grouped together to constitute a lot.

B-1.2 To ascertain the conformity of a lot to the requirements of this specification, tests shall be carried out for each lot separately. The number of V-belts to be selected randomly for this purpose shall be in accordance with Table 11.

Table 11 Scale of Sampling and Permmissible Number of Defectives

(*Clauses* B-1.2, B-1.3 *and* B-2.1.1)

Number of V-Belts in the Lot	Number of V-Belts to be Chosen	Permissible Number of Defectives
(1)	(2)	(3)
Up to 1 000	10	0
1 001 to 3 000	15	1
3 001 to 8 000	30	2
8 001 to 22 000	45	2
22 001 to 100 000	60	3
100 001 and above	90	4

B-1.3 The V-belts shall be selected at random and to ensure randomness of selection one of the following procedures is recommended for use:

a) If all the V-belts in a lot are packed individually, then starting from any V-belt count them in one order as 1,2, etc, up to *r* and so on, where *r* is the integral part of *N*/*n* (*N* being the number of V-belts in the lot and *n* the number of V-belts to be chosen). Every *r*th V-belt thus counted shall be withdrawn to constitute a sample.

b) If the V-belts are packed in bundles, then a certain number of bundles (not less than 10 percent of the total number of bundles in the lot) shall be chosen first, and from each of the bundles so chosen approximately equal number of V-belts shall be selected so as to obtain the required number of V-belts specified in col 2 of Table 11.

B-2 NUMBER OF TESTS AND CRITERION FOR CONFORMITY

B-2.1 Each of the V-belts selected according to **B-1.3** shall be examined for dimensions (angle, section and length). Any V-belt failing in one or more of the dimensional requirements given in the standard shall be considered as a defective.

B-2.1.1 If the number of defective V-belts (*see* **B-2.1**) found in the sample is less than or equal to the permissible number of defectives given in col 3 of Table 11, the lot shall be declared as conforming to the dimensional requirements of V-belts, otherwise not.

ANNEX C

(*Clause* 7.3)

RECOMMENDATION FOR STORAGE OF BELTS

C-1 GENERAL

Unfavourable storage conditions can lead to reduced belt life and to variations in belt length.

C-2 STORAGE ENVIRONMENT

Belts should be stored in a cool dry place out of the direct sunlight at ambient temperatures preferably below 30°C. Belts should not be stored on the floor or near windows, radiators or airflow from heaters. Some fibres used in strength members of belts are subject to shrinkage in storage, the amount depending on the relative humidity and storage time.

C-3 EQUIPMENT

During storage, avoid excess weight on and distortion of belts. When hung on pegs, the longer belts should be coiled so that the loops are not greater than approximately 2 500 mm in circumference.

Pegs should be crescent shaped and large enough to aviod compression set from corners or from acute bends of the belt.

C-4 DRIVE INSTALLATION

It is recommended that a drive which is to stand for a prolonged period before use should have the belt tension relaxed to prevent the belt taking a permanent set on the pulleys. Before a drive is started up, it is essential that the belt be retensioned.

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